R-10			COMPARING IRRIGATION SYSTEMS														
		<u>Surface</u>					<u>Sprinkler</u>						<u>Micro</u>				
SYSTEM S	SUB-TYPE	Flood, Uncontrolled	Furrow, Graded	Furrow, Contour	Border, Graded	Border, Level Basin	Big Gun	Side Roll	Solid Set	Over Pipe, Impact	CenterPivot, L Low Pressure Drops	inear LEPA	Mini-Sprinkler	Continuous tape	Point Source Emitter	Subsurface Drip Irrigation (SDI)	
Description		Water is diverted into a field with no method to contain the water in any part of the field.	Small channels on a continuous somewhat uniform slope in the direction of irrigation.	Similar to Graded Furrow except that the nearly level furrows carry water across a sloping field. One method of delivering water is with gated pipe.	divided by parallel ridges	A form of controlled surface flooding on land that is leveled flat or nearly flat and the water is confined by borders all around. Most of these have been laser leveled.	A high capacity sprinkler mounted on a self-powered chassis and fed with water from a flexible hose	Similar to a hand move system with the lateral lines mounted on a large wheel. The system is periodically moved typically by a small gas engine	•	The "classic" original center pivot system.	A short pipe connected to the supply line that positions the outlet a a pre-determined elevation above or within the crop canopy or to a drag hose on the ground. See LEPA, LESA, LPIC, & MESA	Low Energy Precision Application. Discharge is via a drag sock or hose t or through a bubble shield or pad nozzle less than or equal to 18" above ground. Only used in a row crop or bed scenario where water is applied only within the row.	Spray or spinners, generally less thar 45 gallons per hour (0.75 gpm)		Individual emitters inserted or tapped into tubing (generally less than or equal to 2 gph) o bubblers (generally less than or equal to 60 gph)	r the soil surface rather than laid	
Potential Irrigation Efficiency (%)		45	70	70	70	80	55	65	75	70	80	90	85	90	90	90	
Applicability		Not recommended	Sloping terrain such as in Tucumcari and parts of the Deming area.	Uneven sloping terrain such as mountainous valleys throughou the state.	Sloping terrain such as the mountainous	Used widely in flatter terrain such as in Las Cruces, Carlsbad, and Fort Sumner	Relatively flat terrain. Often used to apply liquid ag waste.		Various terrain	Various	Various terrain	Relatively flat terrain	Various terrain	Relatively flat terrain		Relatively flat terrain	
Crops		Pasture	All Row Crops	All Row Crops	Pasture and Hay	Pasture and Hay		Pasture, Hay, and Low Growing Row Crops	Hay, and	Pasture, Hay, and Most Row Crops	Pasture, Hay, and Most Row Crops		All Row Crops and orchards	All Row Crops	All Row Crops, Orchards, and Vineyards	All Row Crops, I Alfalfa, and orchards	
Head or Pressure		Very Low	Very Low	Very Low	Very Low	Very Low	60+ PSI	50 PSI	50 PSI	50 PSI	30 PSI	30 PSI	30 PSI	25 PSI	25 PSI	25 PSI	
Opera	ation	Very High labor requirement	High labor requirement	High labor requirement		Medium labor requirement	High labor requirement	High labor requirement	Low labor requirement, but must be highly skilled	Low labor requirement, but must be highly skilled	Low labor requirement, but must be highly skilled	Low labor requirement, but must be highly skilled	but must be	Low labor requirement, but must be highly skilled	but must be	Low labor requirement, but must be highly skilled	
Maintenance		Annual touchup of ditches, turnouts, and borders.					Electrical and mechanical requirements							Electrical and mechanical requirements			
Restrictions		Need large "head" of water.				Water quality is very important due to the potential for leaf burn. Need a more continuous supply of water.						Filtration is essential. Need a continuous supply of water					
System Cost		Minimal	Low	Low	Low	Medium	High	High	Very High	High	Very High	Very High	Very High	Very High	Very High	Very High	
Other Considerations		The minimum application under the very best designed and											Additional energy cost when compared to surface methods. Production can be optimized due to operation flexibility				
		Production m	ay be substa	antially reduce	a aue to mo	sture stress.		Production	may be slight	<u>y reaucea au</u>	e to moisture str	ess.	Production c	an be optimiz	<u>rea aue to oper</u>	ation flexibility	
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